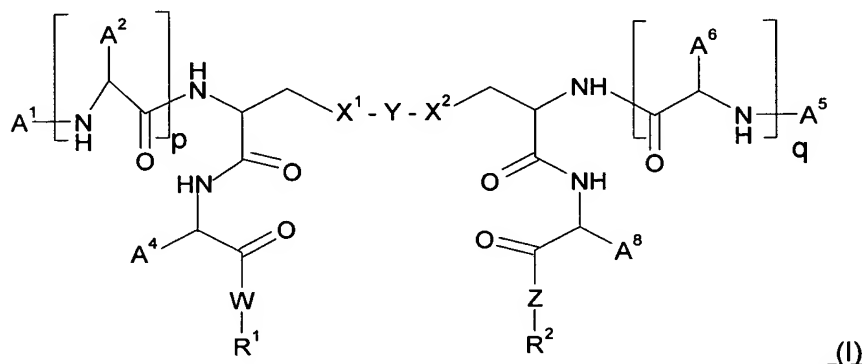


Amendments to the Claims:

This listing of claims will replace all prior version, and listings of claims in this application.

Claims 1-28 (Cancelled)

Claim 29 (Currently Amended) A method of transfecting polynucleotides into cells in vivo for gene therapy, which method comprises administering ~~peptide-based gemini compounds of any of of claims 1 to 20~~ a peptide-based gemini compound according to the formula (I):



where:

A¹ and A⁵, which may be the same or different, are positively charged groups formed from one or more amino acids or amines joined together in a linear or branched manner;

A² is the side chain of an amino acid;

A⁶ is the side chain of an amino acid;

p and q, which may be the same or different, is 0 or 1;

X¹ is O or S;

X² is O or S;

A⁴ is CH₂OH or CH(CH₃)OH;

A⁸ is CH₂OH or CH(CH₃)OH;

Y is a linker group, or when each of X¹ and X² is S, the group of variables X¹-Y-X² taken together represents a disulfide bond;

R¹ and R² are C₍₁₀₋₂₀₎ saturated or unsaturated alkyl groups, and

· Appl. No.: Unassigned
Filing Date: Herewith

W and Z are NH, O, CH₂ or S; or

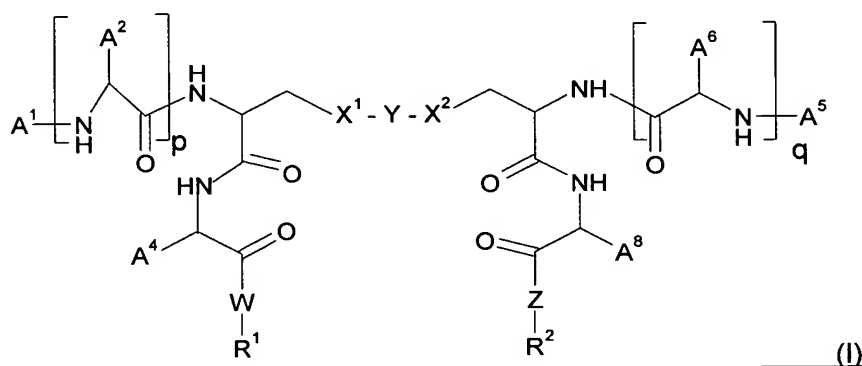
a salt thereof,

together with, or separately from, a the gene therapy vector.

Claim 30 (Cancelled)

Claim 31 (Cancelled)

32. (Currently Amended) A process for preparing peptide-based gemini compounds of claim 1 or 2 according to formula (I):



where:

A¹ and A⁵, which may be the same or different, are positively charged groups formed from one or more amino acids or amines joined together in a linear or branched manner;

A² is the side chain of an amino acid;

A⁶ is the side chain of an amino acid;

p and q, which may be the same or different, is 0 or 1;

X¹ is O or S;

X² is O or S;

A⁴ is CH₂OH or CH(CH₃)OH;

A⁸ is CH₂OH or CH(CH₃)OH;

Y is a linker group, or when each of X¹ and X² is S, the group of variables X¹-Y-

X² taken together represents a disulfide bond;

R¹ and R² are C₍₁₀₋₂₀₎ saturated or unsaturated alkyl groups, and

- *Appl. No.: Unassigned*
Filing Date: Herewith

W and Z are NH, O, CH₂ or S; or
a salt thereof.

which process comprises adding amino acids or peptides to 2-amino-3-{2-[2-amino-2-(1-dodecylcarbamoyl-2-hydroxy-ethylcarbamoyl)-ethylsulphanyl]-ethylsulphonyl}-N-(1-dodecylcarbamoyl-2-hydroxy-ethyl-) propionamide.